

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 73.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-007693**Date Inspected:** 26-Jun-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 800**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1800**Contractor:** HoChang, Korea**Location:** Unyang/Changwon, Korea**CWI Name:** Sang Ho Kwak**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Pier E2 bearing and Shear key**Summary of Items Observed:**

On this date the Caltrans Quality Assurance (QA) inspector, Dong J. Shin arrived at HoChang Machinery Industries (HCMI) located at Unyang, Korea and DooSan Heavy Industries(DHIC) located at Changwon, Korea. The Purpose of this trip was to observe quality control during fabrication and process of following items.

Forging

1. Bearing Bottom Housing (B1-07/F07302-010): Transfer to KPC for final machining.
2. Bearing Bottom Housing (B2-07/F07302-020): Transfer to KPC for final machining.
3. Bearing Bottom Housing (B3-07/F07302-030): Transfer to KPC for final machining.
4. Bearing Bottom Housing (B4-07/F07302-040): Completed final UT.
5. Spherical Ring (S1-07/F07302-050): Transfer to KPC for final machining.
6. Spherical Ring (S2-07/F07302-060): Transfer to KPC for final machining.
7. Spherical Ring (S3-07/F07302-070): Transfer to KPC for final machining.
8. Spherical Ring (S4-07/F07302-080): Transfer to KPC for final machining.
9. Solid Shaft (B1-02/F07302-090): Transfer to KPC for final machining.
10. Solid Shaft (B2-02/F07302-100): Transfer to KPC for final machining.
11. Solid Shaft (B3-02/F07302-110): Completed final UT.
12. Solid Shaft (B4-02/F07302-120): Completed final UT.

- F number is DooSan Production Number.

- B number is drawing Number.

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Casting

On this date DHIC continued repair welding on following castings, QA inspector, HMIC QC Inspector and DHIC QC inspector has checked welding parameters prior start repair welding. Welding process utilized Flux Core Arc Welding (FCAW) with E81T1-K2, 1.6mm diameter Flux Core wire Manufacture by SEAH-ESAB, Brand name Dual shield 1181-K2. QA inspector checked welding parameters 23-26 volts, 210-250 amps, travel speed 13-16 cm/min, Gas flow 10-25l/min, preheat temperature over 100°C and 24 hours maintaining preheat temperature. All welding parameters comply with approved welding procedure specification No A-F-Z1Z1-219.

Welder: Mr. DJ. Kang and Mr. JH. Kim welding on S4-03

Mr. JH. Nam welding on B2-06

Mr. TR. Ma welding on B1-06

DHIC NDT technician Mr. KS. Lee (UT) and Mr. SD. Lee has performed final MT and UT on S3-01(Stub), B3-06(Bearing top housing), B4-06(Bearing Top Housing) and S2-01(Stub).

QA inspector checked following items prior to testing.

MT: lifting power, pie gauge magnetic field strength, and calibration date.

UT: Calibration date, calibration date and DAC Curve, transducer size and frequency.

Transducer Used: Straight beam: Dia. 24mm, 2MHz, Angle Beam: 20 x 22mm, 2MHz, 45°.

Dual element straight beam: 6 x 20mm 4MHz.

Miniature angle beam: 8 x 9mm, 2MHz, 45°.

1. Bearing Top Housing(B1-06, C07039-010): Continue to repair welding.
2. Bearing Top Housing(B2-06, C07039-020): Continue to repair welding.
3. Bearing Top Housing(B3-06, C07039-030): Completed Final UT.
4. Bearing Top Housing(B4-06, C07039-040):Completed final NDT.
5. Bearing Hold Down Assembly (B1-01-1, C07039-050): Completed Final UT.
6. Bearing Hold Down Assembly (B1-01-2, C07039-060): Completed Final UT.
7. Bearing Hold Down Assembly (B2-01-1, C07039-070): Completed Final UT.
8. Bearing Hold Down Assembly (B2-01-2, C07039-080): Completed final UT.
9. Bearing Hold Down Assembly (B3-01-1, C07039-170): Completed Final UT.
10. Bearing Hold Down Assembly (B3-01-2, C07039-180): Completed Final UT.
11. Bearing Hold Down Assembly (B4-01-1, C07039-190): Completed Final UT.
12. Bearing Hold Down Assembly (B4-01-2, C07039-200): Completed final UT.
13. Shear Key Stub(S1-01, C07039-090) : Completed PWHT.
14. Shear Key Stub(S2-01, C07039-100) : Continue to final NDT.
15. Shear Key Stub(S3-01, C07039-110) : Completed final UT.
16. Shear Key Stub(S4-01, C07039-120) : Continue to repair welding.
17. Shear key Housing(S1-03, C07039-130): Completed NDT after repair welding.
18. Shear key Housing(S2-03, C07039-140): Completed PWHT.
19. Shear key Housing(S3-03, C07039-150): Continue to repair welding.
20. Shear key Housing(S4-03, C07039-160): Continue to repair welding.

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* S and B number is drawing number.

* C number is DSHI ID number.



Summary of Conversations:

*Discuss with Mr. S. H. Kwak regarding general project schedule.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy, (510) 385-5910, who represents the Office of Structural Materials for your project.

Inspected By: Shin,DJ

Quality Assurance Inspector

Reviewed By: Lanz,Joe

QA Reviewer
